

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1-37. (Canceled)

38. (Currently amended) An isolated polynucleotide comprising at least 15 contiguous nucleotides from the nucleotide sequence of SEQ ID NO: 4, said polynucleotide encoding a *Helicobacter pylori* cytotoxin associated immunodominant (CAI) ~~CAI~~-antigen, said *Helicobacter pylori* CAI antigen comprising the amino acid sequence of SEQ ID NO: 10.

39. (Previously presented) The polynucleotide of claim 38, wherein said polynucleotide comprises at least 30 contiguous nucleotides from the nucleotide sequence of SEQ ID NO: 4.

40. (Previously presented) The polynucleotide of claim 38, said polynucleotide comprising at least 45 contiguous nucleotides from the nucleotide sequence of SEQ ID NO: 4.

41. – 44. (Canceled)

45. (Currently amended) A vector comprising the polynucleotide of claim 38 ~~or 44~~.

46. (Previously Presented) An isolated host cell transformed with the vector of claim 45.

47. (Canceled)

48. (Previously presented) The polynucleotide of claim 38, said polynucleotide comprising at least 15 contiguous nucleotides from nucleotide position 2776 to nucleotide position 3466 of the nucleotide sequence of SEQ ID NO: 4.

49. (Currently amended) The polynucleotide of claim 38 ~~claim 44~~, said *Helicobacter pylori* CAI antigen comprising at least 10 contiguous amino acids from the amino acid sequence of SEQ ID NO: 5.

50. (Currently amended) The polynucleotide of claim 38~~claim 44~~, said *Helicobacter pylori* CAI antigen comprising at least 15 contiguous amino acids from the amino acid sequence of SEQ ID NO: 5.

51. – 53. (Canceled)

54. (Currently amended) The polynucleotide of claim 38~~claim 44~~, said *Helicobacter pylori* CAI antigen comprising amino acids 1 – 1147 of the amino acid sequence of SEQ ID NO: 5.

55. – 56. (Canceled)

57. (Currently amended) The polynucleotide of claim 38~~claim 44~~, said *Helicobacter pylori* CAI antigen comprising at least amino acid positions 748 to 977 of the amino acid sequence of SEQ ID NO: 5.

58. (Previously presented) The polynucleotide of claim 38, said polynucleotide comprising the contiguous nucleotides from nucleotide position 535 to nucleotide position 3975 of the nucleotide sequence of SEQ ID NO: 4.

59. - 61. (Canceled)

62. (Previously presented) The polynucleotide of claim 38, 39, or 40, wherein said polynucleotide comprises at least one nucleotide sequence of nucleotides 3172-3189 of SEQ ID NO: 4, nucleotides 3202-3216 of SEQ ID NO: 4, nucleotides 3259-3273 of SEQ ID NO: 4, nucleotides 2641-2676 of SEQ ID NO: 4, or nucleotides 2776-2811 of SEQ ID NO: 4.

63. (Canceled)

64. (Previously presented) The polynucleotide of claim 38, said *Helicobacter pylori* CAI antigen comprising the amino acid sequence of SEQ ID NO: 9 or amino acids 880-885 of SEQ ID NO: 5.

65. (Previously presented) The polynucleotide of claim 38, said *Helicobacter pylori* CAI antigen comprising a second amino acid sequence of SEQ ID NO: 10 or amino acids 880-885 of SEQ ID NO: 5.

66. – 69. (Canceled)

70. (Previously presented) The polynucleotide of claim 38, said *Helicobacter pylori* CAI antigen comprising the amino acid sequence of SEQ ID NO: 5.

71. (Previously presented) The polynucleotide of claim 38, said *Helicobacter pylori* CAI antigen comprising the amino acid sequence of SEQ ID NO: 27.

72. (Canceled)